REMARKS

In response to the above-identified Office Action, Applicants amend the application and seek reconsideration thereof. In this response, Applicants amend FIG. 1, FIG. 2, Claims 4-6 and 10-12. Applicants cancel Claims 1-3 as group I (Claims 4-12) was elected. Applicants do not add any new claims. Accordingly, Claims 4-12 are pending.

I. In the Drawings

The Examiner indicates that FIG. 1 and FIG. 2 should be designated by a legend such as --Prior Art--. As stated above, Applicants submit herewith a proposed amendment to FIG. 1 and FIG. 2 to comply with the Examiner's request. Further, Applicants have removed the non-English language characters in FIG. 2. Approval of the amendment is respectfully requested.

II. Claims Objections

Applicants have amended Claims 4–6 and 10-12 to correct the informalities identified by the Examiner. Accordingly, reconsideration and withdrawal of the objections to these claims are respectfully requested.

III. Claims Rejected Under 35 U.S.C. § 103(a)

Claims 4 and 8-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,103,600 issued to Ueda et al. ("Ueda") in view of U.S. Patent No. 6,673,717 issued to Brousseau, III ("Brousseau"). Applicants respectfully disagree for the following reasons.

To establish a *prima facie* case of obviousness, the Examiner must show the cited references, combined, teach or suggest each of the elements of a claim. Among other elements, amended Claim 4 recites "spraying a silicon containing gas to change the amorphous silicon layer into a hemisphere-type silicon layer having a plurality of silicon electron islands." Neither Ueda nor Brousseau teaches or suggests at least these elements.

Ueda discloses using an electron beam deposition (EBD) method for forming semispherical amorphous Si fine particles (col. 2, lines 28-37). As is generally known in the art, the EBD requires sequential scanning of an electron beam to irradiate a surface (see, for example, Electron Beam Deposition of Gold Nanostructure, authored by Folch et al. and published *by American Institute of Physics*, January 1995). Applicants note that electron beam based techniques have the inherent problem of being unsuitable for mass production as the techniques are sequential in nature (Applicants' specification at page 3, lines 13-19).

The method of Claim 4 changes the amorphous silicon layer into a hemisphere-type silicon layer by spraying a silicon containing gas. Unlike the EBD, gas spraying is not sequential and therefore is more efficient. Thus, because of the recited method is compatible with the existing manufacturing process, the method of Claim 4 enables mass production of electron islands of a single electron device (Applicants' specification at page 18, lines 1-9).

Brousseau does not cure the defect of Ueda. Brousseau mentions a number of techniques for fabricating nanoparticles, such as self-assembled hexane dithol molecular tether, vacuum deposition (e.g., CVD), electrochemical deposition, evaporation, and photolithography (col. 6, line 55 – col. 7, line 7). Brousseau does not teach or suggest any techniques involving spraying a silicon containing gas as recited in Claim 4. Thus, Ueda in view of Brousseau does not teach or suggest each of the elements of Claim 4. Accordingly, reconsideration and withdrawal of the obviousness rejection of Claim 4 are requested.

Claims 8-10 depend from independent Claim 4 and incorporate the limitations thereof. Thus, at least for the reasons mentioned in regard to Claim 4, these claims are not obvious over Ueda in view of Brousseau. Accordingly, reconsideration and withdrawal of the obviousness rejection of Claims 8-10 are requested.

IV. Allowable Subject Matter

Claims 5-7 are objected to as being dependent from rejected base Claim 4 and because of the informalities mentioned above. Claims 11 and 12 are objected to because of the informalities

mentioned above. Applicants respectfully submit that the amendment to Claims 4, 5-7, 11, and 12 has placed these claims in condition for allowance for at least for the reasons set forth above. Accordingly, reconsideration and withdrawal of the objection of Claims 5-7, 11, and 12 are requested.

CONCLUSION

In view of the foregoing, it is believed that all claims now are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207 3800.

Respectfully submitted,

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CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 15, 2005.

Lillian E. Rodriguez 6-15-05

Lillian E. Rodriguez June 15, 2005